# Protocol Modification Form: PMF No. 1 for Benthic QAPP Addendum No. 5

**Project Name and Number:** Passaic RI 09.58.02.41

**Material to be Sampled:** Sediment

**Measurement Parameter:** Relocating SQT sediment sampling locations

**Standard Procedure for Field Collection & Laboratory Analysis (cite reference):**

Worksheet No. 18 in Benthic QAPP Addendum No. 5, Proposed Sampling Locations and Methods/SOP Requirements Table, and Benthic QAPP Figures 1a – 1c (map of target sampling locations)

**Reason for Change in Field Procedure or Analysis Variation:**

Sampling locations were moved during the 2012 benthic field effort for the collection of background-reference sediment samples upstream of Dundee Dam. Locations were moved from proposed locations as presented in Worksheet No. 18 of Benthic QAPP Addendum No. 5 for one of the following reasons:

1. QAPP target location was inaccessible by boat.
2. Substrate at QAPP target location was too rocky to obtain good grab sample.

**Variation from Field or Analytical Procedure:**

Table 1 provides the new coordinates for the sediment quality triad (SQT) locations that were moved and the rationale for the relocation. The final locations are shown on Figure 1 attached to this PMF. Figure 2 provides the proposed locations for the sediment samples that will be collected for chemistry-only sediment samples (chemistry-only sediment sample collection is scheduled to begin November 26, 2012 ).

**Special Equipment, Materials or Personnel Required:**

None

| | | | |
|---|---|---|---|
| Initiator's Name: | | Date: | 11/19/12 |
| Project Manager: | | Date: | 11/19/12 |
| QA Manager: | | Date: | 11/19/12 |
| USEPA Authority: | | Date: | |

## Table 1. SQT Sampling Locations to Establish Freshwater Background-Reference Conditions

| Sampling Location | New Location? | Rationale for Moving Location | Easting (X)[a, b] | Northing (Y)[a, b] | RM | Data Collection Method | Analyses | Rationale for Monitoring Location |
|---|---|---|---|---|---|---|---|---|
| UPRT18H | Yes | Original location (UPRT18H) was below obstruction (pipe crossing river) and inaccessible by boat | 594662 | 747963 | 17.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Targeted nearshore location; field-measured grain size from October 2012 reconnaissance 42% coarse, 58% fines |
| UPRT18I | Yes | Original location (UPRT18I) was below obstruction (pipe crossing river) and inaccessible by boat | 594567 | 747742 | 17.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Targeted coarse grain sediment; field-measured grain size from October 2012 reconnaissance 82% coarse, 18% fines |
| UPRT18J | Yes | Original location in side channel (UPRT18J) was too shallow for boat access; moved to main stem | 594284 | 748072 | 17.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 92% coarse, 8% fines |
| UPRT18K | Yes | Original location in side channel (UPRT18K) was too shallow for boat access; moved to main stem | 594500 | 749655 | 17.9 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 90% coarse, 8% fines |
| UPRT19J | Yes | Original location in side channel (UPRT19K) was too shallow for boat access; moved to main stem | 594891 | 750287 | 18.1 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 24% coarse, 76% fines |
| UPRT19K | Yes | Original location in side channel (UPRT19J) was too shallow for boat access; moved to main stem | 594853 | 750827 | 18.2 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 52% coarse, 48% fines |

## Table 1. SQT Sampling Locations to Establish Freshwater Background-Reference Conditions

| Sampling Location | New Location? | Rationale for Moving Location | Easting (X)[a, b] | Northing (Y)[a, b] | RM | Data Collection Method | Analyses | Rationale for Monitoring Location |
|---|---|---|---|---|---|---|---|---|
| UPRT19L | No | na | 593691 | 752156 | 18.5 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 100% coarse |
| UPRT19M | No | na | 593521 | 753134 | 18.7 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area between Dundee Dam and I-80; field-measured grain size from October 2012 reconnaissance 100% coarse |
| UPRT20A | No | na | 593933 | 754562 | 19.0 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 14% coarse, 86% fines |
| UPRT20B | No | na | 593792 | 754732 | 19.0 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 18% coarse, 82% fines |
| UPRT20C | No | na | 593704 | 755904 | 19.3 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 34% coarse, 66% fines |
| UPRT20D | Yes | Original location (UPRT20D) was in middle of boat launch at Elmwood Park | 593934 | 756211 | 19.3 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Target fine-grain sediment at location with human access points along river; field-measured grain size from October 2012 reconnaissance 36% coarse, 64% fines |

## Table 1. SQT Sampling Locations to Establish Freshwater Background-Reference Conditions

| Sampling Location | New Location? | Rationale for Moving Location | Easting (X)[a, b] | Northing (Y)[a, b] | RM | Data Collection Method | Analyses | Rationale for Monitoring Location |
|---|---|---|---|---|---|---|---|---|
| UPRT20E | No | na | 593573 | 757471 | 19.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 20% coarse, 80% fines |
| UPRT20F | No | na | 593318 | 757805 | 19.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 20% coarse, 80% fines |
| UPRT20G | Yes | Original location was above RM 21.3 where water is shallow and contains large rocks and is inaccessible by boat | 593713 | 758634 | 19.8 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 90% coarse, 10% fines |
| UPRT21A | No | na | 594215 | 759390 | 20.0 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 48% coarse, 52% fines |
| UPRT21B | Yes | Moved to provide finer grain size; field-measured grain size for original location (UPRT21B) during October 2012 reconnaissance was 80% coarse, 20% fines | 594304 | 759819 | 20.0 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 50% coarse, 50% fines |
| UPRT21C | No | na | 594388 | 760379 | 20.2 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 88% coarse, 12% fines |

## Table 1. SQT Sampling Locations to Establish Freshwater Background-Reference Conditions

| Sampling Location | New Location? | Rationale for Moving Location | Easting (X)[a, b] | Northing (Y)[a, b] | RM | Data Collection Method | Analyses | Rationale for Monitoring Location |
|---|---|---|---|---|---|---|---|---|
| UPRT21D | Yes | Substrate at original location (UPRT21F) was rocky; moved location down river | 593893 | 760965 | 20.3 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 86% coarse, 14% fines |
| UPRT21E | Yes | Substrate at original location (UPRT21D) was rocky; moved location down river | 593432 | 761295 | 20.4 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 100% coarse, 0% fines |
| UPRT21F | No | Not moved; original ID number (UPRT21E) was changed to provide consecutive number sequence | 592798 | 761474 | 20.6 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 70% coarse, 30% fines |
| UPRT21G | Yes | Substrate at original location (UPRT21G) was rocky; moved location down river | 591953 | 761465 | 20.7 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Randomly selected for spatial coverage of area above I-80; field-measured grain size from October 2012 reconnaissance 92% coarse, 8% fines |
| UPRT22A | No | na | 591076 | 763069 | 21.1 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Potential human access location adjacent to Fairlawn Park; field-measured grain size from October 2012 reconnaissance 66% coarse, 34% fines |
| UPRT22B | No | na | 590985 | 763326 | 21.1 | Grab sampler | Toxicity test, sediment chemistry, taxonomy | Potential human access location adjacent to Fairlawn Park; field-measured grain size from October 2012 reconnaissance 96% coarse, 4% fines |

[a] Coordinates replace the target coordinates of these locations presented in Worksheet 18 of the Benthic the QAPP. Coordinates provided were from the first successful grab sample for a given location.

[b] New Jersey State Plane (US survey feet).

ID – identification
na – not applicable
RM – river mile
SQT – sediment quality triad